

**Notice of Allowability**

Application No.

09/923,949

Examiner

Steven D. Maki

Applicant(s)

SHIMURA, KAZUHIRO

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10-20-04.
2. ☒ The allowed claim(s) is/are 1, 3, 4 and 6.
3. ☒ The drawings filed on 08 August 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 110104.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

Examiner's Amendment

- 1) An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Change title to --Pneumatic tire having wear indicator--

## AMENDMENT TO THE CLAIMS

1. (currently amended) A pneumatic tire comprising, ~~a mark portion of a wear indicator which changes as wear progresses, said mark portion being provided on a portion of a tread surface of said tire and disposed apart and in isolation from a main groove extending circumferentially about said tire, wherein said mark portion includes a first cavity and a second cavity disposed in close proximity to the first cavity, each one of the first and second cavities extending into a depth direction of the tread surface, wherein said first cavity has a first surface shape defining a first surface area that continuously changes as a depth of the tread surface decreases due to wear and said second cavity has a second surface shape defining a second surface area that remains constant as the depth of the tread surface decreases due to wear,~~ the isolated first cavity having substantially the same depth as the isolated second cavity and being closely placed on the tread surface next to the isolated second cavity so as to define a wear indicator such that wear amount of the tread surface can be determined using a ratio of image data of the isolated second cavity and image data of the isolated first cavity.

2. (canceled)

3. (currently amended) The pneumatic tire according to claim 1, wherein wall surfaces of at least one of said first cavity and said second cavity are colored with a different color from that of surrounding rubber.

4. (currently amended) The pneumatic tire according to claim 1, wherein a colored member of a different color from that of surrounding rubber is buried in said at least one of said first cavity and said second cavity.

Art Unit: 1733

5. (canceled)

6. (previously presented) The pneumatic tire according to any one of claims 3 and 4, wherein the first and second surface shapes are in a quadrilateral having a pair of long sides and a pair of short sides respectively, the pair of long sides of the second surface shape is made constant in the depth direction, and the pair of long sides of the first surface shape is made to change in the depth direction from the tread surface.

7. - 19. (canceled)

Art Unit: 1733

7) Authorization for this examiner's amendment was given in a telephone interview with Brian K. Dutton on 11-5-04.

#### Reasons for Allowance

8) The following is an examiner's statement of reasons for allowance, which supplement applicant's arguments already of record:

Europe '113 discloses a wear indicator comprising a group of isolated slits of different depth wherein each slit has constant surface area as the tread surface decreases due to tread wear. However, Europe '113 does not teach modifying the wear indicator by using a "first isolated slit" having (a) a surface area that changes as the depth of the tread surface decreases due to tread wear *and* (b) substantially the same depth as one of the constant surface area slits.

Awaya et al teaches disposing a "first isolated wear indicator" having a surface area that changes as the depth of the tread surface decreases due to tread wear in a rib (figure 6), but does not disclose a second isolated cavity having (a) a surface area that remains constant as the depth of the tread surface decreases due to wear and (b) substantially the same depth as the first isolated wear indicator.

Havens teaches an isolated slit for traction having a constant surface shape with tread wear. However, Havens discloses neither a wear indicator nor an isolated cavity having (a) a surface area that continuously changes the depth of the tread surface decreases due to tread wear and (b) substantially the same depth as the isolated slit for traction.

German '833 and Japan '607 teach a wear indicator comprising a cavity having a surface area that changes due to tread wear, but fail to teach the wear indicator as additionally having a isolated second cavity having (a) a surface area that remains constant as the surface of the tread decreases due to tread wear and (b) substantially the same depth as the isolated wear indicator.

Great Britain '975, which fails to teach a wear indicator, describes using a mixture of surface shapes for the holes of one group. The description of "a mixture of such shapes" at page 1 lines 95-96 only refers to the surface shapes such as the shapes illustrated in figures 6-10. Page 1 lines 99 describes "holes may be of uniform section for the whole of their depth or may be tapering" (emphasis added). Great Britain '975 fails to disclose, teach or suggest combining holes having different cross sectional shapes such that the isolated first cavity has substantially the same depth as the isolated second cavity and is closely placed on the tread surface next to the isolated second cavity so as to define a wear indicator such that wear amount of the tread surface can be determined using a ratio of image data of the isolated second cavity and image data of the isolated first cavity. Although an isolated cavity having a surface area that continuously changes as the depth of the tread surface decreases due to tread wear is known per se and an isolated cavity having a surface area that remains constant as the depth of the tread surface decreases due to tread wear is known per se, the prior art of record, when viewed as a whole, fails to teach **selecting and combining the claimed isolated first cavity** having the claimed area that continuously changes as the depth of the tread surface decreases due to tread wear and the **claimed isolated**

Art Unit: 1733

**second cavity** having the claimed surface area that remains constant as the depth of the tread surface changes due to tread wear *such that the isolated first cavity has substantially the same depth as the isolated second cavity and is closely placed on the tread surface next to the isolated second cavity so as to define a wear indicator such that wear amount of the tread surface can be determined using a ratio of image data of the isolated second cavity and image data of the isolated first cavity.*

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

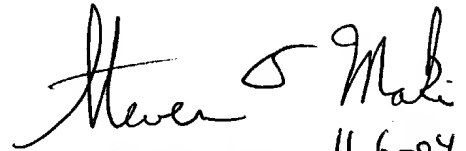
9) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1733

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki  
November 6, 2004

  
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PRIMARY EXAMINER  
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11-6-04